

CLAIMS

What is claimed is:

- 1 1. A system for generating amplitude matched, phase shifted signals,
2 comprising:
3 a filter arrangement including a plurality of nodes, each node configured to
4 provide an associated vector that is offset in phase from a vector associated with each
5 other node; and
6 an adjustable element associated with each node, the adjustable element
7 configured to substantially equalize an amplitude of each vector associated with each
8 node.
- 1 2. The system of claim 1, wherein four nodes are associated with the filter
2 arrangement, each node having an associated vector.
- 1 3. The system of claim 2, further comprising:
2 an adder element configured to add the four vectors resulting in eight phase shifted
3 vectors.
- 1 4. The system of claim 3, further comprising:
2 a scaler configured to scale the amplitude of the four vectors resulting in eight
3 amplitude matched phase shifted vectors.
- 1 5. The system of claim 4, wherein the adjustable element is an adjustable
2 resistance.
- 1 6. The system of claim 5, wherein the adjustable resistance is a metal oxide
2 semiconductor field effect transistor (MOSFET) adjustable resistance.
- 1 7. The system of claim 4, wherein the adjustable element is an adjustable
2 capacitance.

1 8. The system of claim 7, wherein the adjustable capacitance is a varactor.

1 9. A method for generating amplitude matched, phase shifted signals,
2 comprising:

3 providing a plurality of vectors, each vector associated with a node, each vector
4 offset in phase from each other vector associated with each other node; and

5 adjusting each node to substantially equalize an amplitude of each vector
6 associated with each node.

1 10. The method of claim 9, wherein a resistance associated with each node is
2 adjusted to substantially equalize an amplitude of each vector associated with each node.

1 11. The method of claim 9, wherein a capacitance associated with each node is
2 adjusted to substantially equalize an amplitude of each vector associated with each node.

1 12. The method of claim 10, further comprising adjusting the resistance using
2 a metal oxide semiconductor field effect transistor (MOSFET) adjustable resistance.

1 13. The method of claim 12, further comprising combining four vectors
2 associated with each of four nodes resulting in eight phase shifted vectors.

1 14. The method of claim 13, further comprising scaling the four vectors
2 resulting in eight substantially amplitude matched phase shifted vectors.

1 15. The method of claim 11, further comprising adjusting the capacitance
2 using a varactor.

1 16. The method of claim 15, further comprising combining four vectors
2 associated with each of four nodes resulting in eight phase shifted vectors.

1 17. The method of claim 16, further comprising scaling the four vectors
2 resulting in eight amplitude matched phase shifted vectors.

1 18. A system for generating amplitude matched, phase shifted signals,
2 comprising:

3 filter means including a plurality of nodes, the filter means for providing a
4 plurality of associated vectors that are offset in phase from each other vector associated
5 with each other node; and

6 means for substantially equalizing an amplitude of each vector associated with
7 each node.

1 19. The system of claim 18; wherein the means for substantially equalizing an
2 amplitude of each vector comprises adjustable resistance means.

1 20. The system of claim 18, wherein the means for substantially equalizing an
2 amplitude of each vector comprises adjustable capacitance means.

1 21. The system of claim 19, wherein the adjustable resistance means
2 comprises a metal oxide semiconductor field effect transistor (MOSFET) adjustable
3 resistance.

1 22. The system of claim 21, further comprising:
2 adder means for combining four vectors associated with each of four nodes
3 resulting in eight phase shifted vectors.

1 23. The system of claim 22, further comprising:
2 scaler means for scaling an amplitude of the four vectors resulting in eight
3 substantially amplitude matched phase shifted vectors.

1 24. A system for generating amplitude matched, phase shifted signals, in a
2 portable communication device, comprising:
3 a portable communication device including a transmitter and a receiver;
4 a synthesizer for providing a local oscillator signal;
5 a filter arrangement configured to operate on the local oscillator signal, the filter
6 arrangement including a plurality of nodes, each node configured to provide an associated
7 vector that is offset in phase from a vector associated with each other node; and
8 an adjustable element associated with each node, the adjustable element
9 configured to substantially equalize an amplitude of each vector associated with each
10 node.

1 25. The system of claim 24, wherein four nodes are associated with the filter
2 arrangement, each node having an associated vector.

1 26. The system of claim 25, further comprising:
2 an adder element configured to add the four vectors resulting in eight phase shifted
3 vectors.

1 27. The system of claim 26, further comprising:
2 a scaler configured to scale an amplitude of the four vectors resulting in eight
3 substantially amplitude matched phase shifted vectors.

1 28. The system of claim 27, wherein the adjustable element is an adjustable
2 resistance.

1 29. The system of claim 28, wherein the adjustable resistance is a metal oxide
2 semiconductor field effect transistor (MOSFET) adjustable resistance.

1 30. The system of claim 27, wherein the adjustable element is an adjustable
2 capacitance.

- 1 31. The system of claim 30, wherein the adjustable capacitance is a varactor.